REMARKS

The Applicants have filed a Notice of Appeal because the final rejection of all claims is in error. However, in the interest of expediting resolution, the undersigned is presenting the following remarks in anticipation that the Examiner may allow the claims without the Applicants having to continue the appeal process. The Examiner is therefore requested to discuss the merits of this Request For Reconsideration with his supervisor prior to issuing an Advisory Action and/or during a pre-appeal conference.

Claims 1-12, 14-16, 18 and 25-28 stand finally rejected under Section 102(e) as anticipated by Chen (6,660,622).

The Examiner is invited to reconsider the rejection of claim 1, as Chen does not disclose or suggest, "controlling power supplied to the target to maintain the wafer temperature below a critical temperature, wherein at a wafer temperature above the critical temperature the material of the first material layer can extrude into one or more of the plurality of openings." In fact, neither the word "temperature" nor the word "extrude" appears in the Chen reference.

The Examiner references Chen's Table 1 to support the Examiner's argument that the Applicant's target power element is disclosed. As to the Applicant's critical temperature and extrusion claim elements, the Examiner states that the USPTO does not require applicants to disclose every underlying scientific principal, feature or problem avoided. It thus appears that the Examiner is suggesting the Applicants' invention is inherent in the cited art.

The fact that a certain result or characteristic may occur or be present in the prior art, such as Chen, is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993). In this case the CAFC reversed the Examiner's rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art.

"To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.' "*In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999).

According to the case law, the Examiner has not met his burden of showing the inherency of the Applicants' invention as set forth in claim 1. The Examiner cannot merely suggest that certain conditions within the ambit of the Applicants' claim 1 are inherent in Chen and thus Chen anticipates claim 1. To suggest anticipation on that basis requires one to read more into the Chen reference than it discloses, either directly or inherently.

Chen discloses a process for, "removing a barrier layer formed at the bottom of a via by a sputter etching process performed in a plasma sputter deposition chamber. The same sputter deposition chamber may be advantageously used to then deposit a second barrier layer." The two steps of sputtering the wafer to remove the barrier layer and the sputtering step to deposit the second barrier layer are, "differentiated by power applied to the target, by chamber pressure, or by wafer bias." Chen further states at column 4, beginning at line 64, "the IMP chamber allows the formation of an argon plasma without sputtering the tantalum target by exciting the plasma through the inductive coil and not significantly DC biasing the target. The highly directional high-energy argon ions incident on the wafer remove or sputter the CVD barrier bottom and field portions 32, 36. That is, a sputtering process is performed on the wafer, not a sputter deposition process."

Chen's process does not necessarily disclose the Applicants' invention as set forth in claim 1 as the Applicants' process includes elements not included within nor inherent within Chen's process.

The Chen process is further described by the parameters set forth in Table 1, including a target power of 0kW during step 1 and a target power of 1kW during step 2. These values are far below that required, "to maintain the wafer temperature below the critical temperature." Thus even optimization of the Chen process within Chen's target power range of 0kW to 1kW does not and cannot disclose the Applicants' invention as claimed in claim 1. Claim 1 should therefore be in condition for allowance.

With respect to the rejection of dependent claims 2-4 depending from claim 1, the Applicants note that each of these dependent claims include one or more elements that further distinguish the invention over the art of record. Dependent claims 2-4 should therefore be in condition for allowance.

The Examiner has rejected independent claims 5 and 25 on the same basis as set forth above with respect to claim 1. Thus the Applicants' remarks set forth above are also applicable to the rejection of claims 5 and 25. The Examiner's anticipation rejection of these claims cannot stand as he has not provided, "a basis in fact and/or technical reasoning to reasonably support the

determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990).

With respect to dependent claims 6-18, all depending directly or indirectly from independent claim 5 and rejected over Chen under Section 102(e) or rejected under Section 103(a) as unpatentable over Chen in view of Gopalraja (6,193,855), it is respectfully submitted that each of these dependent claims further distinguishes over the art of record and thus the claims should be in condition for allowance.

With respect to dependent claims 26-30, all depending directly or indirectly from independent claim 25 and rejected over Chen under Section 102(e) or rejected under Section 103(a) as unpatentable over Chen in view of Gopalraja (6,193,855), it is respectfully submitted that each of these dependent claims further distinguishes over the art of record and thus the claims should be in condition for allowance.

Independent claim 19 and its dependent claims 20-24 stand rejected under Section 102(b) as anticipated by Gopalraja.

It appears that here too the Examiner attempts to employ an inherency argument in the rejection of claims 19-24.

Independent claim 19 recites the step of, "forming an electric field in a region of the target," and "controlling the electric field to maintain the wafer temperature below a critical temperature, above which wafer features can sustain damage."

Gopalraja discloses a technique related to the problem of material re-sputtering. "During a period of plasma decay, a bias to a substrate support member is increased to a relatively higher power, thereby periodically enhancing the attraction of positively charged particles to the substrate during the afterglow period of the plasma. The plasma decay is achieved by terminating the coupling of energy into the gases. In one embodiment, a bias to the target is also modulated." Gopalraja's objective is to achieve conformal step coverage.

It is respectfully suggested that Gopalraja does not disclose or suggest the Applicants' invention as set forth in claim 19 as the wafer temperature parameter is not mentioned in the Gopalraja patent. It is therefore submitted that the Applicants' invention as described by independent claim 19 is patentably distinct from the disclosure of Gopalraja. The Examiner's apparent inherency argument also fails as Examiner Brewster has not met his burden of showing that the invention as set forth in the Applicants' claim 19 is necessarily present in the Gopalraja

reference and that its presence would be recognized by one skilled in the art. At a minimum there is no direct or inherent disclosure for, "controlling the electric field to maintain the wafer temperature below a critical temperature, above which wafer features can sustain damage," as set forth in claim 19.

With respect to dependent claims 20-24, depending from independent claim 19, it is respectfully submitted that each of these dependent claims further distinguish the invention over the art of record and include one or more elements in conjunction with the elements of claim 19 that are not present in the art of record.

Given the lack of relevant direct or inherent disclosure in Chen and Gopalraja, neither of these references alone or their combination (assuming that there is relevant disclosure in one of the references that permits the combination) is sufficient to support the rejection of the Applicant's claims 1-30.

The Applicants hereby petition for an extension of time of one month under the provisions of 37 C.F.R. 1.136. A check in the amount of $120 payable to the Commissioner for Patents is enclosed in payment of the extension fee.

Should Examiner Brewster desire to sustain the rejections the courtesy of a telephonic conference between the Examiner and the undersigned attorney is respectfully requested.

Respectfully submitted,

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CERTIFICATE OF MAILING

I HEREBY CERTIFY that this Amendment is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 11th day of July, 2005.

Pamela A. Pagel